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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/931,434	08/16/2001	Michael Anthony Marra III	2001-0325	2913

21972 7590 09/12/2003

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EXAMINER

FLETCHER, MARLON T

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .		Applicant(s)	
	09/931,434		MARRA ET AL.	
	Examiner		Art Unit	
	Marlon T Fletcher		2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. (4,851,754) in view of Rodal et al. (4,749,927) and Palmin et al. (4,703,238) and Spiegel et al. (5,652,485).

As recited in claims 1 and 5, Sakamoto et al. disclose a velocity controller for an electric motor (5), said motor having an input pulse signal and a motor current, said velocity controller comprising: an estimator (4) connected to said motor, said estimator adapted to generate an estimated motor velocity after receiving said pulse signal and said motor current; and a PI controller (6) connected to said estimator and said motor, said PI controller adapted to generate a pulse signal after receiving a reference velocity and said estimated motor velocity.

As recited in claim 2, Sakamoto et al. disclose the velocity controller, wherein said PI controller comprises: an initial summing junction (1) in figure 2, which compares said reference velocity and said estimated motor velocity and generates an error signal; an integrator which receives said error signal and generates a value for multiplication by an integral constant as discussed in column 4, lines 28-32; a means for multiplying said error signal by a proportional constant and a means for multiplying said value received from said integrator by an integral constant as discussed in column 3, lines 18-36; and

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a final summing junction (2) which add the value of the signal generated by said proportional constant means and the value of the signal generated by said integral constant means and generates a sum as a PWM signal to said motor.

Sakamoto et al. do not disclose the use of PWM nor fuzzy logic.

However, as recited in claims 1 and 5, Rodal et al. disclose a velocity controller for an electric motor (10), said motor (10) having an input PWM signal (via PWM 30) and a motor current (voltage), said velocity controller comprising: PI controller (18, 30) adapted to generate a PWM signal after receiving a reference velocity and said estimated motor velocity.

As recited in claims 1 and 5, Palmin et al. disclose a velocity controller for an electric motor (14), said motor having an input pulse signal and a motor current, said velocity controller comprising: (1) an estimator connected to said motor, said estimator adapted to use logic to generate an estimated motor velocity after receiving said pulse signal and said motor current as discussed in column 3, lines 1-8 and 63-68.

Speigel et al. disclose the use of fuzzy logic to generate motor velocity, wherein a PWM signal is generated in response to the fuzzy logic (column 4, lines 25-29; column 5, line 22 through columnn 6, line 35; and column 7, lines 3-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Rodal et al. and Palmin et al. and Speigel et al. with the apparatus of Sakamoto et al., because the combination provides the use of PWM and fuzzy logic, while continuing to provide velocity control in a more efficient manner, wherein fuzzy logic provides integrated computational results verses the logic, wherein fuzzy logic is programmed to provide results.

3. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakamoto et al. in view of Rodal et al. and Palmin et al. and Spiegel et al. as applied to claims 1, 2, and 5, above, and further in view of Berg et al. (6,416,161).

Sakamoto et al. in view of Rodal et al. and Palmin et al. are discussed above in reference to the velocity controller as claimed in claims 3 and 4. Neither reference discloses a priming station.

However, as recited in claim 3, Berg et al. disclose a priming station (1000) disposed in a printer having a print head, said priming station comprising: a cap (600) connected to a cap carriage (300), said cap carriage being operably connected to a helical gear and being adapted to move in a path; a motor (figure 14) connected to a worm gear, said worm gear being operably connected to said helical gear so that when said motor is energized said cap carriage will move along said path as discussed in column 5, lines 58-67; said cap carriage (300) having a prime position along said path, said prime position occurring when said cap comes to a stop against said print head when said print head is in a prime position; a blotter (800) positioned to stop and blot said cap as said cap travels to a blotting position along said path; and a velocity controller controlling said motor as discussed in column 5, lines 62-67 and as recited in claim 12.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the teachings of Berg et al. with the combination of Sakamoto et al. in view of Rodal et al. and Palmin et al. and Spiegel et al., because Berg et al. provides a device for use of the velocity controller, wherein the device is a priming station. The velocity controller could be used in several types of devices using motors and motor control systems.

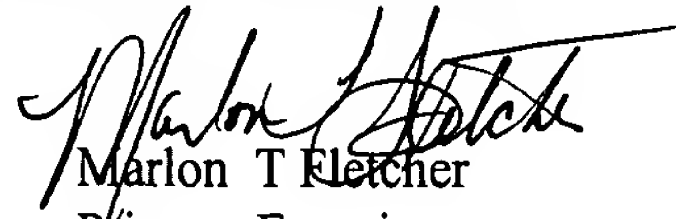
Allowable Subject Matter

4. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 703-308-0848. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Marlon T Fletcher
Primary Examiner
Art Unit 2837

MTF
September 8, 2003